AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1. (Previously Presented): A masking mechanism for a film forming apparatus, comprising:

a single mask; and

a means for moving the mask in a uniaxial direction relative to a substrate;

wherein said mask has a first, a second and a third single action edge each of which has a normal unit vector;

the normal unit vector of said first single action edge and that of said second single action edge make an angle of 120° relative to each other, the normal unit vector of said second single action edge and that of said third single action edge make an angle of 120° relative to each other, and the normal unit vector of said third single action edge and that of said first single action edge make an angle of 120° relative to each other;

said first single action edge acts to determine a film thickness gradient of a first material, said second single action edge acts to determine a film thickness gradient of a second material, and said third single action edge acts to determine a film thickness gradient of a third material, and

the film is a ternary phase diagrammatic system which is composed with the first, second and third materials.

2. (Currently Amended): A masking mechanism for a film forming apparatus as set forth in claim 1,

wherein said mask has a side making an angle of $90° + \alpha$ (where $0° \leq \alpha < 90°$) relative to said uniaxial direction, [[and]] a first opening and a second opening,

said first opening has a side making an angle of $30° + \alpha$ relative to said uniaxial direction and said second opening has a side making an angle of $-30° + \alpha$ relative to said uniaxial direction, and

said side making an angle of $90° + \alpha$ relative to said uniaxial direction constitutes said first single action edge, said side making an angle of $30° + \alpha$ relative to said uniaxial direction constitutes said second single action edge, and said side making an angle of $-30° + \alpha$ relative to said uniaxial direction constitutes said third single action edge.

3. (Currently Amended): A masking mechanism for a film forming apparatus ~~as set forth in claim 1~~, comprising:

a single disk having a first, a second and a third cutout; and

a means for rotating the disk about its center;

wherein said first cutout has a side making an angle of $90° + \alpha$ (where $0° \leq \alpha < 90°$) relative to a circumferential direction of said disk, said second cutout has a side making an angle of $30° + \alpha$ relative to the circumferential direction, and said third cutout has a side making an angle of $-30° + \alpha$ relative to said circumferential direction,

said side making an angle of 90° + α relative to said circumferential direction of said mask constitutes a first single action edge, said side making an angle of 30° + α relative to said circumferential direction constitutes a second single action edge, and said side making an angle of – 30° + α relative to said circumferential direction constitutes a third single action edge,

said first single action edge acts to determine a film thickness gradient of a first material, said second single action edge acts to determine a film thickness gradient of a second material, and said third single action edge acts to determine a film thickness gradient of a third material, and

the film is a ternary phase diagrammatic system which is composed with the first, second and third materials.

4. (Withdrawn): A masking mechanism for a film forming apparatus, characterized in that:

it comprises a single mask and a means for moving the mask relative to a substrate in a uniaxial direction; and

said mask has a first and a second single action edge each of which has a normal unit vector and a double action edge in the form of a triangle having its base oriented in said uniaxial direction and its two other sides constituting action edges, wherein

the normal unit vector of said first single action edge makes an angle of 30°relative to said uniaxial direction and the normal unit vector of said second single action edge makes – 30°relative to said uniaxial direction.

5. (Withdrawn): A masking mechanism for a film forming apparatus as set forth in claim 4, characterized in that

said single mask comprises a single disk having a first and a second cutout, and

said first cutout is a cutout in the form of a fan having its two sides making angles of 30°and – 30°relative to a circumferential direction of said disk, respectively, and said second cutout is a cutout having sides making angles of 60°and – 60°relative to the circumferential direction of said disk and a side oriented parallel to said circumferential direction.

6. (Withdrawn): A masking mechanism for a film forming apparatus, characterized in that:

it comprises a single mask and a means for moving the mask relative to a substrate in a uniaxial direction; and

said mask has a triangular opening having a base side oriented in a said uniaxial direction, said mask also having a side extending orthogonal to said uniaxial direction; and

the other two sides other than the base side of said triangular opening and said side orthogonal to said uniaxial direction constitute a triple action edge, whereby

selecting a rate of movement at which said triangular opening is moved and a rate of movement at which said side orthogonal to said uniaxial direction allows a film thickness gradient to be produced in a particular direction determined by the rates of movement selected.

7. (Withdrawn): A masking mechanism for a film forming apparatus as set forth in claim 6, characterized in that

said single mask is a single disk;

said disk has a first cutout, and a second cutout or a first opening;

said first cutout is a fan shaped cutout, said second cutout is a cutout having a side extending orthogonal to a circumferential direction f said disk, and said first opening is a triangular opening having a base side extending parallel to a circumferential direction of said disk; and

the two sides of said fan shaped cutout and the side of said second cutout that extends orthogonal to a circumferential direction of said disk constitutes said triple action edge, or the two sides of said triangular opening other than said base side and the side of said second cutout that extends orthogonal to a circumferential direction of said disk constitutes said triple action edge.

8. (New) A masking mechanism for a film forming apparatus, comprising:

a mask; and

a means for moving the mask in one direction on a straight line above or beneath a substrate;

wherein said mask has a periphery orthogonal to said straight line, and a first and a second openings,

said first opening has a first edge making an angle of 30° to said straight line, said second opening has a second edge making an angle of -30° to said straight line, and

when said means for moving moves said mask above or beneath said substrate,

the movement of said periphery determines a film thickness gradient of a first material,

the movement of said first edge determines a film thickness gradient of a second material, and

the movement of said second edge determines a film thickness gradient of a third material,

thereby a ternary phase diagrammatic system thin film is deposited on said substrate.

9. (New) A masking mechanism for a film forming apparatus, comprising:

a mask; and

a means for moving the mask in one direction on a straight line above or beneath a substrate;

wherein said mask has a periphery making an angle of α (wherein $0° \leq \alpha < 90°$) to said straight line, and a first and second openings,

said first openings has a first edge making an angle of $30° + \alpha$ to said straight line, said second opening has a second edge making an angle of $-30° + \alpha$ to said straight line, and

when said means for moving moves said mask above or beneath said substrate,

the movement of said periphery determines a film thickness gradient of a first material,

the movement of said first edge determines a film thickness gradient of a second material, and

the movement of said second edge determines a film thickness gradient of a third material,

thereby a ternary phase diagrammatic system thin film is deposited on said substrate.